

Part 4: Impact on the family of the worker working a modern shift roster

4.1 Background and context

Shift work is known to impact on family life and the relationships in profound and often detrimental ways (Hattery & Merrill 1997). These include:

- daily disruption to the routine and rhythms of family life
- mismatch between the worker's time off and the family's time off
- need for extra recuperation required by shift work
- the associated impact on employee mood and emotional state
- the extra pressure on the non-shift working spouse can strain family relationships.

Shift working employees are constantly trying to balance their needs for sleep and recovery time with the needs of their family and desire to maintain other social relationships and friendships. While some families seem to cope well, it is recognized that maintaining this balance is difficult and when the balance is missing, family relationships can be profoundly damaged.

The impact of extended shifts on the family is one of the key terms of reference of the Review. Indeed, the impact on family life was, along with the impact on employee health and safety, one of the principle issues of concern among West Coast communities that led to the Review.

a) The context for understanding the impact on the family

Even though the impact of extended shifts on the community was not included in this Review, the community context within which mining families operate is important for understanding the additional pressures that impact on families as a result of community factors.

The community context

The mines that are the focus of this review are located predominantly on the West Coast of Tasmania, a rugged, isolated area of Tasmania that experiences extremes of weather conditions all year round. Rain, snow, fog, ice and sleet are not uncommon any time of the year and often unseasonal weather is a strong feature of the area. While roads have improved, weather conditions can cut off these communities and public transport is limited. This adds to a sense of isolation but increases, for many residents, a strong sense of identity and emotional attachment. Many employees and their families are from second or third generation mining families and many have their extended families living nearby. While the isolation of these areas may appear onerous to many outsiders, and the sense of attachment inexplicable, for others the West Coast has a strong sense of history, emotional attachment and 'place'.

The townships of Queenstown, Zeehan, Tullah and Strahan are where the majority of employees and their families live. They are small towns with limited services and declining populations. In all but Strahan and, to a lesser extent, Queenstown where tourism provides the only significant alternative employment, the mines are the principle employers and still the lifeblood of the communities. A small number of employees live in small townships such as Waratah which is near to Savage River mine, the most isolated mine site, but most employees at this site live in larger regional centres.

Beaconsfield, where Beaconsfield Gold Mine is located, is situated in Northern Tasmania within a mixed rural setting. The mine represents the major local employer.

Mines employees do not live locally, but tend to reside in larger urban centres such as Burnie, Launceston, and Hobart.

There is a range of factors associated with the nature of the communities, particularly on the West Coast that make family life in these areas unique and much more fragile and susceptible to the changes that have occurred over the last ten years or so.

Changing communities

The townships are small with a declining and changing population base. A report commissioned to examine the health needs of the area in 2000 (Hollister, 2000), identified a range of changes including:

- Declining population associated in part with the ebb and flow of mining operations
- Changes in shift rosters and use of contract labour that had enabled many families to relocate to the North West Coast
- Erosion of a range of local services as population declined and mining companies withdrew from active involvement in the towns
- Change to the population profile of the towns and a growing disparity between those who work in the mines or who have retired and those who are attracted to cheap housing and are welfare dependent
- Growing aged population as mining families retire or older people are attracted to cheap housing; this group has and will have increased health needs.
- Growing welfare dependent population with increased education, health and welfare needs.

Additional pressures on families on the West Coast

Interviews with a range of stakeholders confirmed these trends and raised other issues of significance to understanding family needs in these areas:

- Severely diminished range of services in these areas including childcare, transport, health, specialist health and welfare services. Ironically, this is occurring at the same time as the needs of many groups within the communities increase
- The closure of all but basic local retail businesses, which places pressure on those businesses remaining. As all but retail businesses close, and choices diminish, families undertake trips to purchase their needs which places further strain on

local businesses. This increases the reliance on services and retail facilities elsewhere

- Decline in sporting and social opportunities for adults and children. This is associated with a number of factors including declining population, relocation of families to the coast, aging population, mines rosters which do not allow mines employees to participate in local sporting teams.
- Withdrawal of many men from community support and sporting activities such as emergency response, coaching children's sport. These voluntary activities assume much greater importance in isolated communities because of the absence of alternative or funded networks and services
- These activities also often provided important social support and companionship for males and the increased social isolation was felt keenly by many employees. This in turn increases the emotional support role of the families and the relationships within them
- Lack of childcare and employment facilities for women at the same time as there is increased insecurity of employment for the men. Many families interviewed explained that women feel more pressure to try to secure employment as they fear for the security of their husband's jobs
- Absence of male role models from the families were raised by many women as particular problems, especially with respect to their sons. Boys during adolescence were seen to be especially vulnerable to the absence and tiredness of their fathers. Men also expressed great frustration about not being able to participate in recreational bonding activities with their children (such as sport, fishing, boating etc).

Many of these factors make family life unique and especially vulnerable to pressures and changes that emanate from the workplace.

The isolation of the communities increases reliance on family and other community networks

It is understandable that in isolated communities, the dependency on immediate and extended family assumes great importance. The isolation of the communities and the absence of alternative social and broader support can mean that the family unit assumes great importance.

The lack of services, especially for women, increases pressures on families and responsibility on women

Services that families can often take for granted in larger areas simply do not exist in many of these communities and the distance and isolation increases the difficulties presented by their absence. Even simple but critical issues such as being able to take children out of the house while husbands are trying to sleep can become major challenges, especially when the weather is bad and when childcare and other support is limited.

Women assume great responsibility for family and domestic chores; taking children to activities, to doctors, shopping. Their role thus becomes pivotal within the family and the broader community

Lack of alternative employment opportunities elevates the significance of the primary employer – the mining company

In most of the communities that were the subject of the Review, the mining company is the principle local employer. This means that policies and practices of these companies can assume far greater importance and significance for these families than for others where alternative employment is more readily available. There is a close, interdependent relationship between mining companies, families and the communities within which they are located.

These factors provide the context within which we can better understand the findings from the family impact survey. The impact of the roster on these families takes place within a very different context experienced by other families and it is within this context that it must be understood.

b) The surveys

We probed for information about the impact of the roster on family life in two ways:

- From the perspective of the employee in the QWL survey
- From the perspective of the spouses in the family impact survey

As outlined, the QWL survey was administered to all employees and the response weighted to reflect the populations. The Family Impact surveys administered to spouses was a sample across the underground sites only.

Administration of the family impact survey

The privacy reasons and due to limitations of company data, it was not possible to establish beforehand, who among the employees had spouses. For this reason we were obliged to send family surveys to all employees marked “to the partner of X employee”.

We included pre-paid envelopes to facilitate returns. We received 270 useable surveys from across the 5 underground sites¹.

We could not control the sample that we did obtain. We also could not weight the data to reflect the population, as we could not be certain of the population.

This also means that the responses from the employees and spouses are not matched. Thus in analysing trends we must be mindful that the responses from the spouses are an unweighted sample across the industry.

Within these limitations, however, we can compare the basic profile of the two groups so that a better sense of the characteristics of the samples can be established.

¹ Savage River was sent surveys ready to distribute but for unknown reasons these were distributed too late to be included in the data.

c) Profile of spouses and employees involved in the surveys

Age

- 70% of employees and spouses surveyed were aged between 25 and 44
- Mean age of both groups is 35-44
- There was no significant difference between the rosters in terms of age profile, although the even time roster had a higher proportion of employees and spouses aged 55-64 years
- Employees and spouses on the 56 hour roster tend to be younger (between 24 and 35)

Marital status

- 77.5% of employees identified as having a current partner (but the vast majority of those without partners or children did not respond to the family questions).
- 95% of spouses did so, with a small group identifying as recently separated or divorced.

Children

Most employees and spouses in the sample have children, with the spouse sample more likely to have children.

Employees

- 78.2% of employees in the sample have children
- 15.6% have one child
- 33.5% have two children
- 20.4% have four children
- 8.7% have four or more children

Spouses

- 88.9% of spouses in the sample have children
- 18.1% have one child
- 37% have two children
- 25.9% have three children
- 7.8% have four or more children

Living arrangements

The respondents fell into two groups:

- 22.5% of employees' families do not live in local mine communities. In these situations, the employee stays near the mine when working and returns to their permanent home usually at the end of the roster cycle.
- 77.5% of families live permanently in local communities and the employee commutes daily to the mine.

The reasons why families choose the living arrangements they do can help us understand the significance these groups place on various aspects of the work/home interface. We asked these two groups to nominate the main reasons why they choose the arrangements they have.

Families who do not live locally:

Main reasons:

62.5% do not want to live apart as a family while the employee is on roster, so live locally.

40.5% like the local town and want to stay.

8.5% of employees do not want to travel long distances.

Families who do not live locally

Main reasons:

58.6% education and other leisure opportunities for the children

24.1% limited work opportunities for the spouse in the mining town

10.3% prefer larger town

Within the scope and limitations of the review, we assessed the impact on the family by drawing on the following information:

- Survey results that probed for the effects on the family from the perspective of the employee (QWL survey) and from the perspective of the spouse (family impact survey).
- Interviews with employees undertaken on a group and individuals basis across all of the sites.
- Structured interviews with a sample of spouses
- Interviews with some key community stakeholders.

Our conclusions draw on insights the results of all of these sources.

4.2 Employee perspective on the impact of the roster on the family and social life

The following section reports the main finding from the surveys. Frequencies and cross-tabulations are contained in Volume 3 of the Background Report.

a) Extent the roster causes problems with family and social life

Employees were the threshold question of whether, if at all, the roster caused them problems with family and social life. Employees had an opportunity to respond in the following ways: always/frequently/sometimes/rarely/never. For the purposes of analysis and presentation we have grouped the responses into 'always/frequently', 'sometimes' and 'rarely/never'.

(i) Extent roster causes problems with family life

We asked employees to nominate to what extent (if at all) they thought the roster caused them problems with their family life and their social life. They were also asked to differentiate their responses between day shift and night shift. This is because we know from research that in terms of family life, night work is known to be one of the principle disrupting factors.

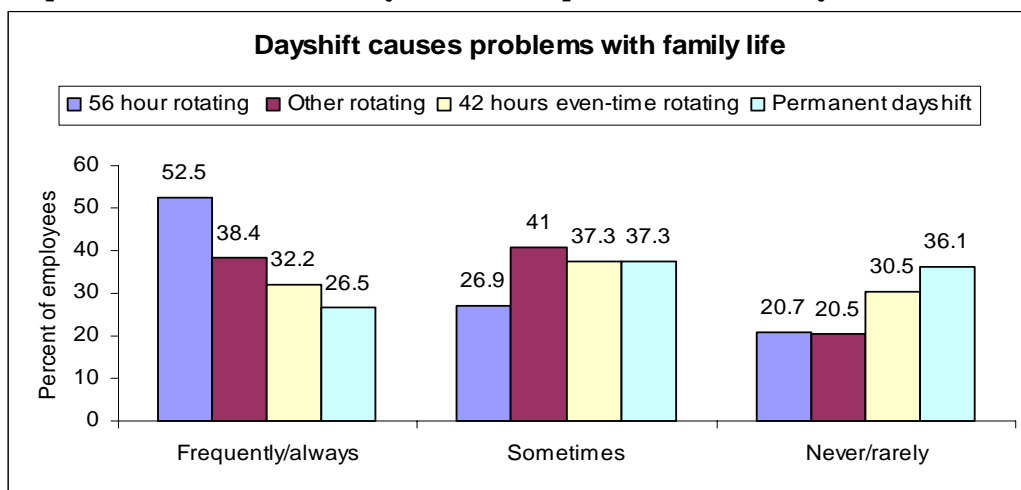
Across all rosters, summary results revealed that:

Dayshift

- 39.6% of employees said **day shift** frequently/always caused problems for family life
- Those on permanent day shift were *least* likely to have problems
- Of the rotating rosters, employees on even-time rosters were least likely to have problems
- Employees on the 56 hour rotating roster were significantly more likely experience problems on day shift (52.4%).

These results are presented in graph 4.2a and b below:

Graph 4.2a Extent to which day shift causes problems with family life



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

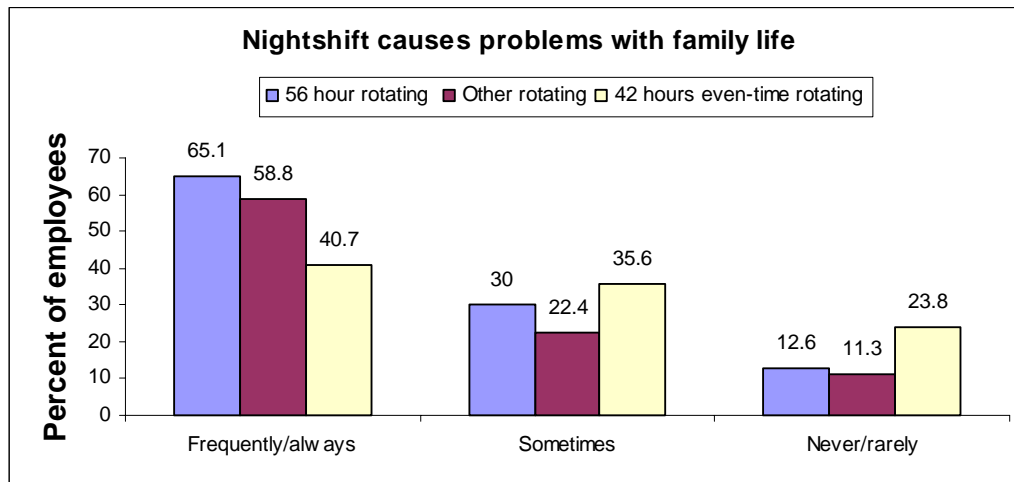
Notes: Significant difference between the rosters $X^2(6) = 22.389$ p = .001 n = 426.

Nightshift

- 54.8% of all employees said that nightshift always/frequently caused them problems with family life
- Of the rotating rosters, employees on the even-time roster (40.7%) were significantly less likely to report problems than the two more intensive rosters
- Employees on the 56 hour rosters (65.1%) were more likely to say that the roster always/frequently caused them problems.

These results are presented below:

Graph 4.2b: Extent to which night shift causes problems with family life



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Notes: Only rotating rosters included in analysis – permanent day shift removed n = 365.

Notes: Significant difference between the rosters $X^2(4) = 17.710$ p = .001 n = 341.

Other factors

We also undertook some limited analysis of other factors that may have impacted on the results. We examined trend by age, age of children, those who had reported being sleep impaired. We found that:

- Seriously sleep-impaired employees were significantly more likely to experience problems than those who were not sleep impaired
- Employees with all of their children in the 0-18 age bracket were much more likely to state that day shift causes them problems with family life compared to those without children and those with children all over the age of eighteen.
- Those between the ages of 25-54 were more likely to cite that night shift caused them problems with family life.

The strongest factors associated with increased likelihood of the employee reporting that the roster caused problems for family life were:

- Being on night shift
- Being on the 56 hour roster
- Being chronically sleep impaired
- Having children between 0 and 18.

(ii) Extent roster causes problems with social life

Complaints about the impact of the roster on the social lives of employees were common and survey results confirm that the roster caused problems with the social lives of employees. This involved three aspects:

- First, social life with their families were affected due to the mismatch of time off between employees and family members
- Second, the need to use time off mainly for recovery
- Third, social lives with friends and other family members were affected because employees found themselves on different shifts than their friends and because of

The struggle for time

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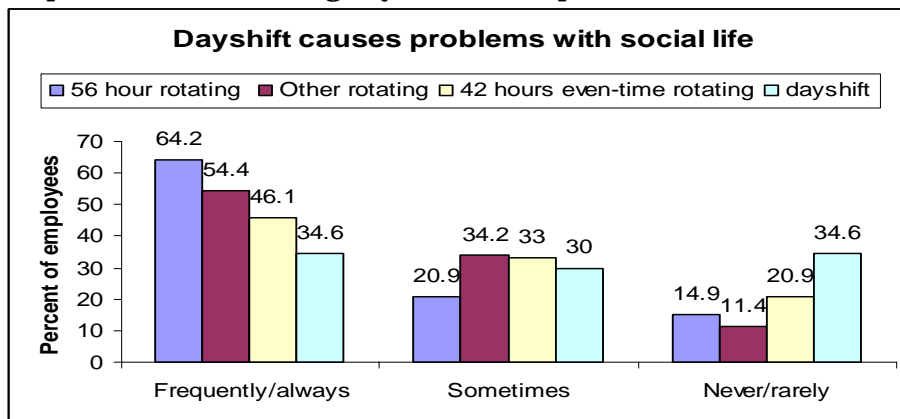
the same mismatch of time off, increasing markedly the social isolation of employees both within and outside of the family.

Summary of survey results across all rosters results revealed that:

- 51.8% of employees said **day shift** frequently/always caused problems for social life
- 67.2% of employees said **night shift** frequently/always caused problems for social life
- Those on permanent day shift were *least* likely to have problems
- Of the rotating rosters, employees on even time rosters were least likely to have problems.
- Employees on the 56 hour rotating roster were significantly more likely to experience problems on day shift (64.2%) and on night shift (76.9%) than any other roster.

These results are presented in graphs 4.2c and d below.

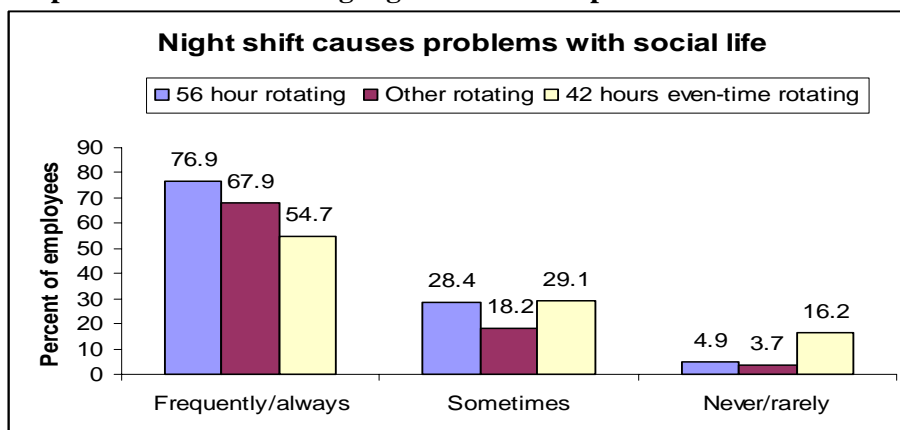
Graph 4.2c Extent working day shift causes problems with social life



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Notes: Significant difference between the rosters $X^2(6) = 28.439$ p = .000 n = 423.

Graph 4.2d Extent working night shift causes problems with social life



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Notes: Only rotating rosters included in analysis – permanent day shift removed n = 365.

Notes: Significant difference between the rosters $X^2(4) = 21.203$ p = .000 n = 341.

By far, the factors most strongly associated with increased likelihood of the roster causing increased problems with social life were:

- Being on night shift
- Being on the 56 hour roster and to a lesser extent the other rotating roster.

Both employees and permanent dayshift and the even-time rosters were less likely than the other two rotating rosters to say the rosters caused them problems with social life.

b) Are the rosters supported by families and do they fit in with family life?

Family support for the roster is known to be associated with a reduced likelihood that the roster will impact in a negative way on family life in the longer term. Shift work involves the entire family, not just the shift-working partner, so the attitude of the family is an important factor implicated in how the employee manages shift work. Decreased family support and understanding can impact on the employee at work in detrimental ways as well.

Employees were asked to respond to a series of questions about:

- Whether their family understood the need to work the roster they did
- Whether their family supported the roster
- Whether the roster fitted in with their family life
- Whether they felt the roster had a detrimental impact on their family life.

Across all rosters, the overall results revealed that:

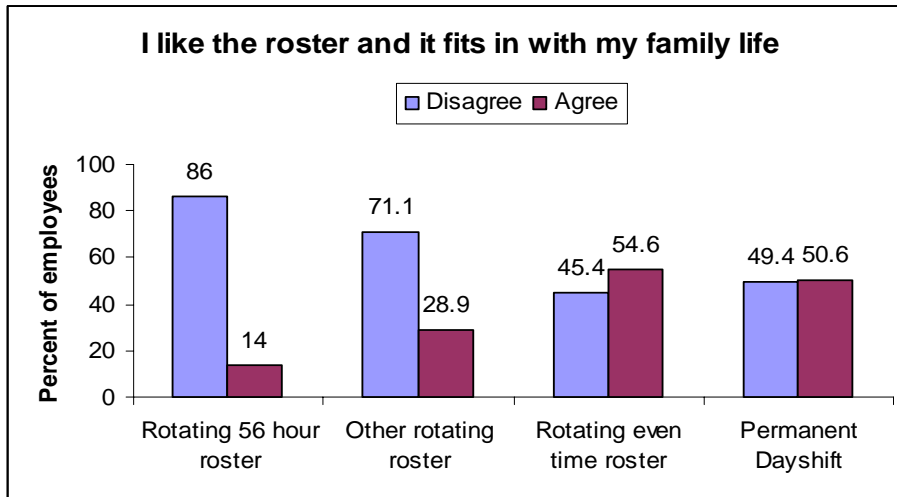
- 73.3% of employees felt their family understood the need for them to work the roster they did.
- 50% of employees agreed that their family was supportive of the roster they work.
- 37% of employees agreed that they liked the roster and it fitted in with their family life
- 66.1% of employees agreed that the roster had a detrimental impact on their family life.

Effect of the roster

There were significant differences between the rosters:

- Just over 50% of employees on the even-time rosters and dayshift agreed that they liked to the roster and it fitted in with their family life
- 56 hour roster employees were far less likely to agree that they liked the roster and it fitted in with their family life (14% compared to an average of 37% and 54.6% of event-time roster employees)
- 86% of employees on the 56 hour roster 71% of employees on the other rotating disagreed that they liked the roster or that it fitted in with their family life.
These differences between the rosters are shown in graph 4.2e below

Graph 4.2e Response to 'I like the roster I work and it fits in with my family life'



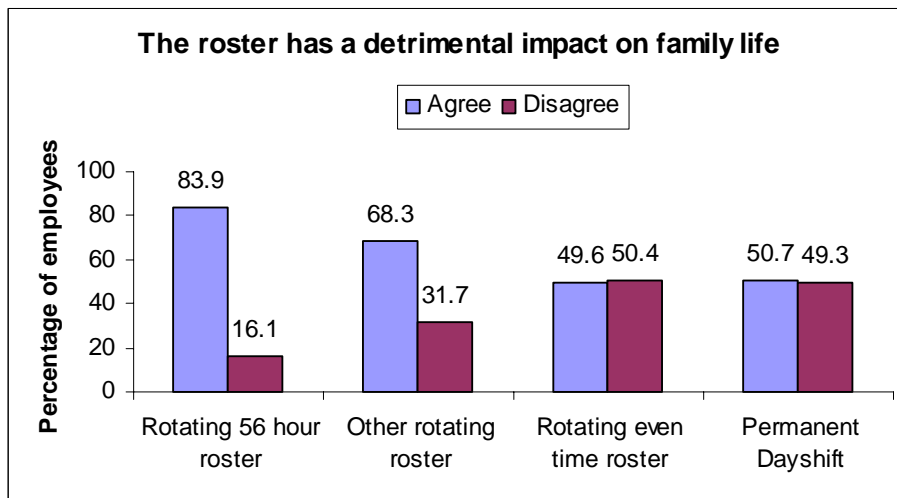
Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Notes: Significant difference between the rosters $X^2(9) = 91.820$ p = .000 n = 435

Graph 4.2f below shows similar stark differences between the rosters in response to the statement “the roster has a detrimental impact on my family life”.

- Employees on the 56 hour roster (83.9%) were significantly more likely to agree that the roster had a detrimental impact on family life than all other rosters.

Graph 4.2f The roster has a detrimental impact on my family life.



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Notes: Significant difference between the rosters $X^2(9) = 69.989$ p = .000 n = 427

Other factors

- Older workers were more likely to agree that they liked the roster and it fitted in with their family lives
- Those with seriously impaired sleep were more likely to respond negatively to these issues.

Again, the factors most strongly associated with a more negative response to these indicators were:

- Being on the 56 hour and to a lesser extent on the other rotating rosters
- Being chronically sleep impaired.

c) Impact on family relationships: spouses and children

We asked employees to rate the quality of their relationships and ability to spend time together when on and off roster across a range of indicators. Employees could respond in the following ways: Excellent/good/adequate/poor. For the purposes of presentation and analysis we grouped the data into 'excellent/good and adequate/poor.

We examined the changes in the proportion of employees who rated these indicators as excellent/good when they were on and off roster and describe this as the 'satisfaction' rating. In other words we examined whether the proportion who rated the various aspects of family life as basically positive changed over the roster phase.

We organized the responses into:

- The impact on employee personal relationships (with their spouse and family overall)
- The impact on employee relationships with children

(i) Impact on relationships with their spouses

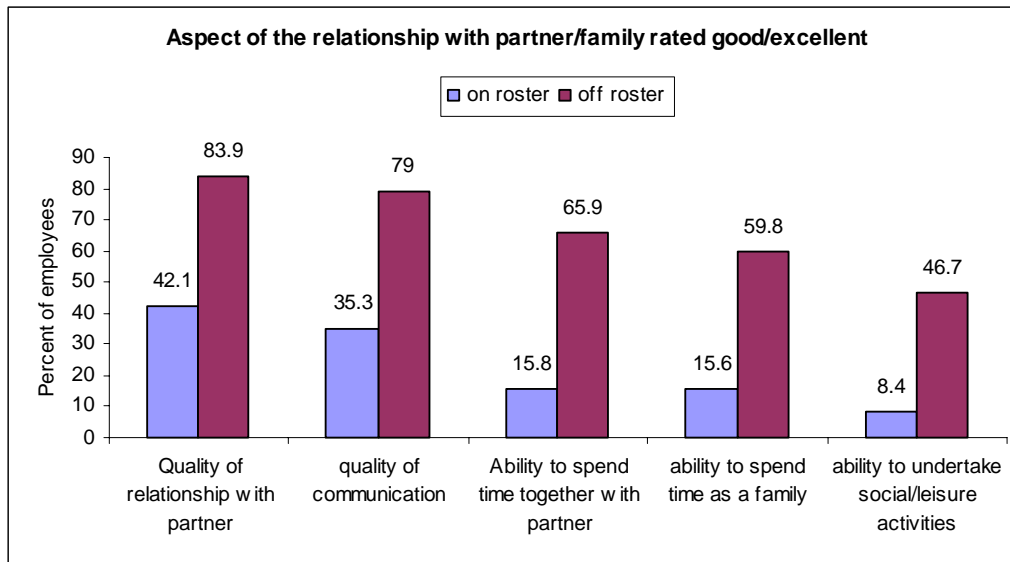
Many employees complained about the increased stress placed on their intimate relationships with their spouses. Absence from the home, tiredness and irritability all impacted on the quality of communication and opportunities for physical and sexual intimacy. For those with smaller children, it was often difficult for employees to balance their need for sleep with the desire to contribute to domestic labour. These issues were of great concern to many employees, especially those who valued their relationships, as they realised the longer-term damage it may be causing to their relationships.

Overall, we found that there was a dramatic deterioration in satisfaction levels across all aspects of personal relationships within the family when employees were on roster.

Satisfaction ratings of the quality of relationship with their partner, quality of communication with their partner, time spent together alone or as a family and ability to be involved in social/leisure activities all fell dramatically when employees were at work.

These results are presented in graph 4.2g below.

Graph 4.2g: Effect of being on roster on range of family relationship indicators



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Effect of the roster

For some of the indicators, there were significant differences between the rosters.

Quality of relationships with partner

- Employees on the 56 hour roster were less likely (6.7%) to rate their relationship as excellent when on roster compared to 16.2% of even time employees and 18.5% of permanent day shift workers.
- More employees on a 56 hour rotating roster rated the condition of their relationship as poor when on roster.

One employee, when interviewed at the mine, explained the situation that many employees expressed:

“I’m not whingeing. I know other people work long hours, but they get a decent break. I have bigger issues with my wife; she doesn’t want me here...it’ll be the finish...I reckon...she’d rather I go on the dole and have me home”

Employee on 56 hour roster

Quality of communication with partner

- Employees on the 56 hour roster were more likely to rate communication poorly both on and off roster and least likely to rate communication with their partner highly both on and off roster.
- Permanent day shift employees consistently rated the quality of communication more highly than all other rosters.

Ability to spend time together with partners

The struggle for time

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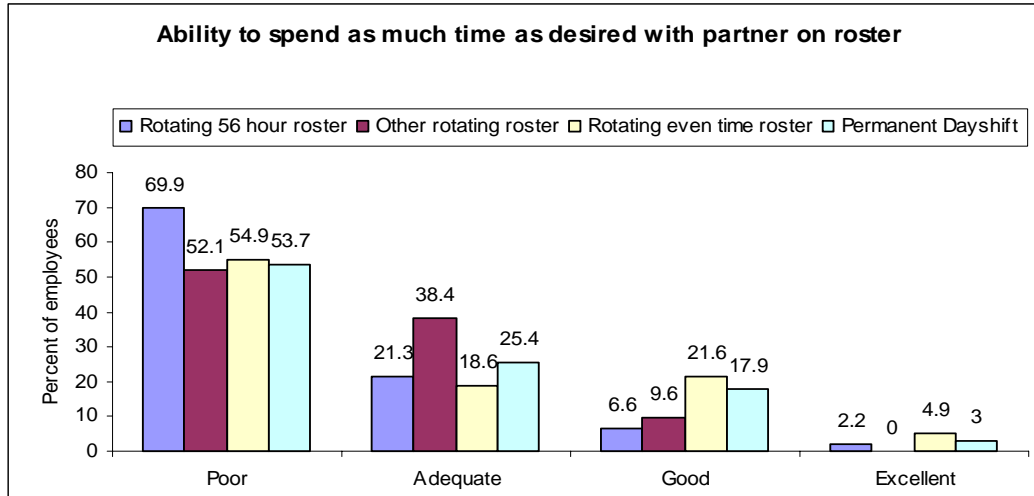
- Employees on the 56 hour roster were significantly more likely to rate their ability to spend time with their partner on roster as poor (69.9%) compared to other employees (59.5%)

One employees argued that:

'The rosters are a shocker...I know the impact they have on my family...a person can go four or five days without seeing their partner'

Employee

Graph 4.2h Roster by ability to spend as much time as desired with partner on roster.



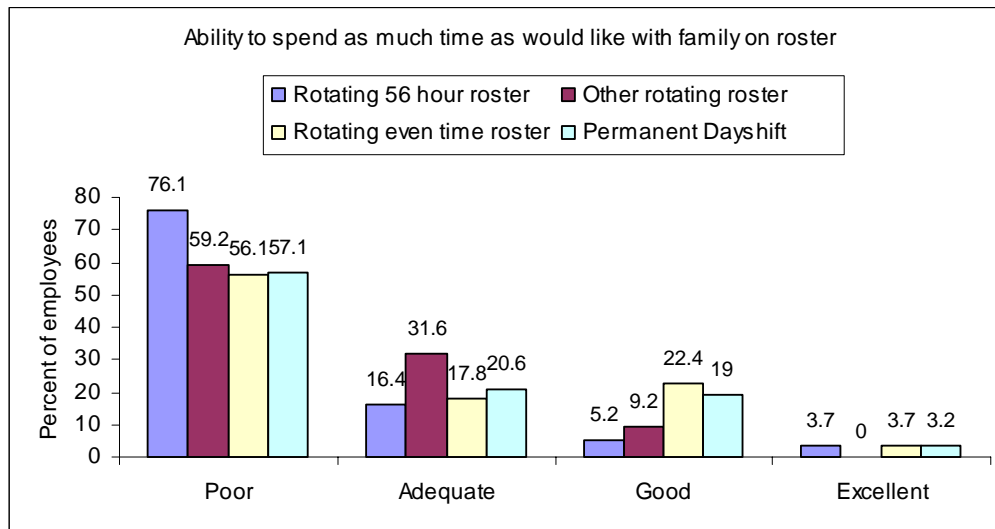
Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Notes: Significant difference between the rosters $X^2(9) = 27.290$ p = .001 n = 378

Ability to spend time together as a family

- Employees on the 56 hour roster had the lowest satisfaction rating for this indicator both on and off roster.
- Employees on the even-time 42 hour roster and day shift had the highest satisfaction rating off roster and on roster than the 56 hour and other rotating rosters

Graph 4.2i Ability to spend as much time as desired with family on roster.



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Social and leisure activities

- Satisfaction rating for employees on the 56 hour roster and other rotating rosters were significantly lower both on and off roster.
- The 42 hour even time roster was more likely to rate ability to be involved in social and leisure activities as good/excellent when off roster than all other employees.

Significantly, employees on the 56 hour roster were more likely than all other employees to have a higher percentage of rating these aspects of family relations as poor both on and off roster (eight of the ten times)

Conversely, employees on the even time 42 hour roster were more likely than any other employees (seven out of ten times) to rate these aspects as excellent.

Other factors

- Older workers (aged 55-64) were almost twice as likely to feel their relationship quality on roster was good or excellent
- Those with children aged 0-18 were significantly less likely to rate their spousal relationship as good or excellent (78.8%) than those with no children (88.1%) or older children (92.9%).
- Sleep-impaired employees were more likely to rate some of these indicators lower than those who were sleep unimpaired.

(ii) Impact of the roster on employee relationships with children

Both employees and spouses expressed great concern about the impact of the roster on their children and on the quality of relationships between employees and their children.

The major issues were:

The struggle for time

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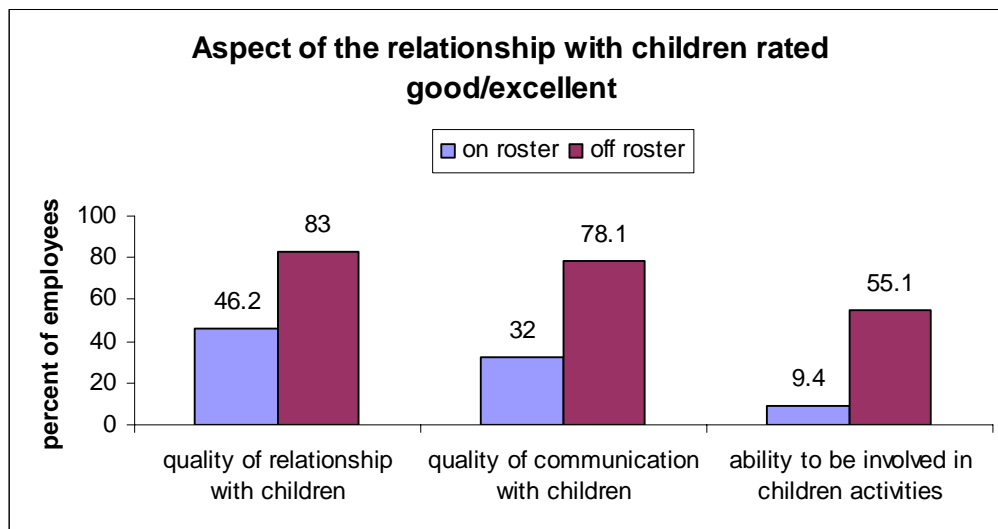
- First, the mismatch of time off between the employee and the children (who were often at school when the employee had time off), the inability to be involved in children's activities (especially sport) and their absence at important times in their children's lives such as birthdays and school activities.
- Second, the deterioration in the quality of the relationship with children due to employee tiredness and need for sleep. Reports of increased irritability, impatience and inability to cope with children were common among both employees and spouses.

Overall results indicated a dramatic deterioration in the satisfaction rating of the relationship with children across all indicators when employees were on roster.

However, results indicate that even off-roster, more than half of employees rate their ability to be involved with children's activities poorly and this plummets to only 9.4% of employees rating this as good or excellent when on rosters. It especially highlights the difficulty faced by employees on these rosters in terms of being involved in their children's lives.

These trends are shown in graph 4.2j below.

Graph 4.2j Impact of the roster on relationships with children



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Effect of the roster

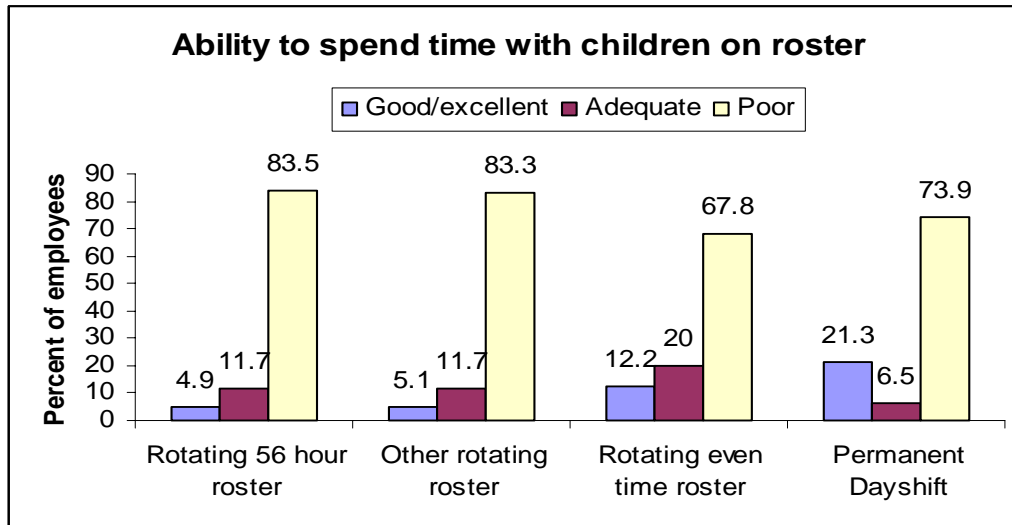
Quality of relationships with children

- Employees on the 56 hour roster were more likely than all other rosters to rate quality of relationships and communication with children as poor both on and off roster.
- Employees on the 56 hour and the other rotating rosters rated their ability to be involved in children's activities lower both on and off roster.
- Even time roster employees were more likely to rate the quality of their relationship and quality of communication with children as excellent.

- Day shift had the highest satisfaction levels for ability to be involved in children’s activities both on and off roster.

Graph 4.2k below shows the dramatic impact of the roster on time with children.

Graph 4.2k Ability of employees to spend time involved in children’s activities when on roster



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Other factors

- Employees who we identified as severely sleep impaired appeared more likely to rate the quality of relationships with their children lower.
- Employees who lived locally were more likely to rate the quality of relationships on roster with their children more highly.

Again, the factors most strongly associated with a more negative response to these indicators were:

- Being on roster
- Being sleep impaired
- Being on the 56 hour an, to a lesser extent, on the other rotating rosters.

d) Employee perception of the main advantages and disadvantages of the roster

We asked employees to nominate, in open-ended questions, what they considered to be the main advantage and disadvantage associated with their roster. These responses support trends highlighted above.

(i) Main advantages

Across all rosters, employees nominated the following as the main advantages:

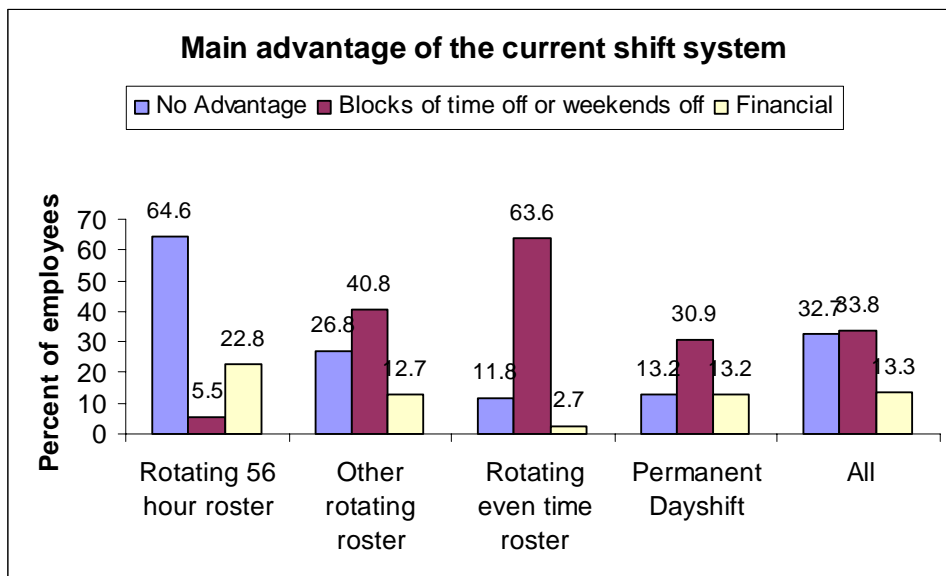
- 33.8% time off on break blocks or weekends off
- 32.7% no advantages
- 13.3% financial
- Other common responses as to the most advantageous feature of the roster included increased family/home time and day shift.

There were significant differences between the rosters

- 64.6% of employees working 56 hour rosters claimed “no advantage”, nearly twice the average across all rosters (33.8%) and more than five times the response from employees working 42 hour even time rosters (11.8%).
- Employees on the 42 hour even time roster were far more likely to nominate blocks of time off (compared to only 5.5% of 56 hour employees who also receive blocks of time off)

These results are presented in graph4.2l below:

Graph 4.2l Main advantages of current shift system: Three main grouped responses.



Notes: All = Population estimates of main advantage of shift system. n = 643.

Notes: Rosters = Effective sample size of processing workers in Tasmanian mines n = 464.

The high response from employees on the 56 hour roster that there are no advantages is highly significant and at odds with the prevailing view among many managers who believe that these employees work the rosters out of choice and principally for financial reasons. This view, on the basis of the results of this review, must be rejected.

(ii) Main disadvantages

Across all rosters, the following were nominated by employees as the main disadvantages:

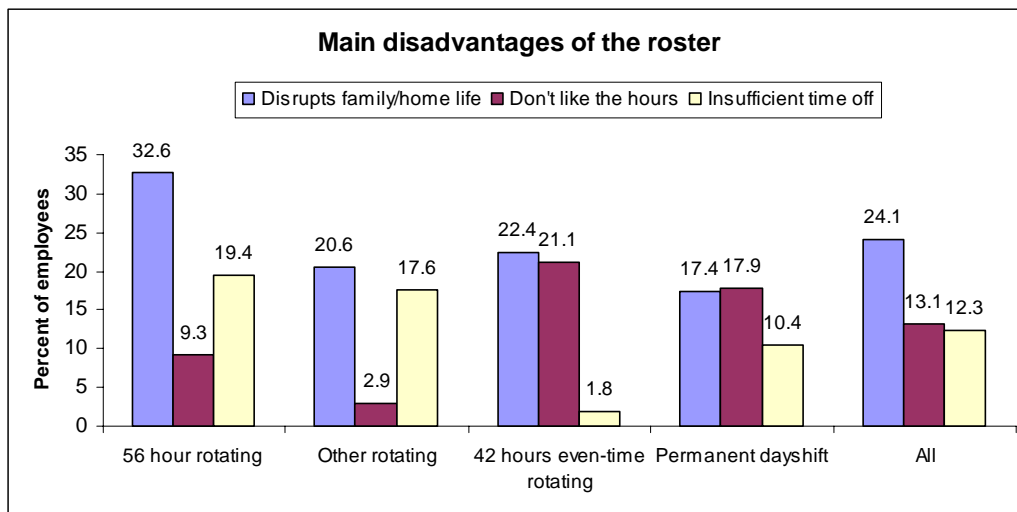
- 24.1% disruption caused to home and family
- 13.1% dislike of the hours
- 12.3% insufficient time off
- Other common disadvantages highlighted were fatigue, disruptions to social life and amount of days in a shift block.

There were significant differences between the rosters

- Employees on the 56 hour roster (32.6%) were far more likely to nominate family disruption as the major disadvantage.
- Employees on the 42 hour even time roster were far less likely to nominate insufficient time off (only 1.8%) compared to all other rosters.

These results are presented in graph 4.2m below.

Graph 4.2m Main disadvantages of the roster: Three main grouped responses



Notes: All = Population estimates of main disadvantage of shift system. n = 643.

Notes: Rosters = Effective sample size of processing workers in Tasmanian mines n = 464.

The importance given to family life by employees highlights again the concern that employees have about the manifest and latent detrimental impact of the roster on family life. The fact that all of the indicators are so consistent is a powerful message about the level of concern felt by the majority of employees about the way these rosters are impacting on their families.

(iii) Do employees believe that the advantages of the roster outweigh the disadvantages?

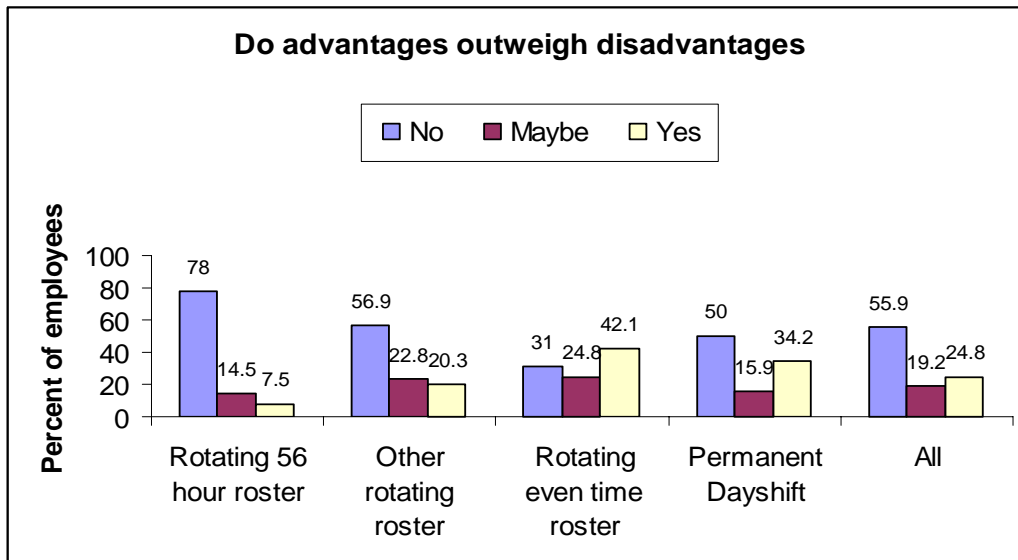
Across all rosters, the majority of employees felt that the advantages of the roster did not outweigh the disadvantages

- Overall, 55.9% of all employees said that the advantages of the roster **did not** outweigh the disadvantages
- Of these, 41% of employees were **definite** in their response that the disadvantages of the shift system definitely did not outweigh the advantages associated with it

There were significant differences across the rosters.

- Employees on the 56 hour roster were far more likely to state that the advantages did not outweigh the disadvantages (78%) than those on even time rosters

Graph 4.2n Do advantages of the roster outweigh the disadvantages



Notes: All = Population estimates of main disadvantage of shift system. n = 643.

Notes: Rosters = Effective sample size of processing workers in Tasmanian mines n = 464.

Notes: Significant difference between the rosters $X^2(12) = 102.335$ $p = .000$ $n = 427$

e) Roster preferences: the relationship between hours and remuneration

We also asked employees a series of questions about their preferences with respect to the rosters. While preference questions have to be handled carefully, they can provide us with another insight into views about the rosters and about how the respective rosters rate the balance between time and money.

Across all rosters, survey results indicated that:

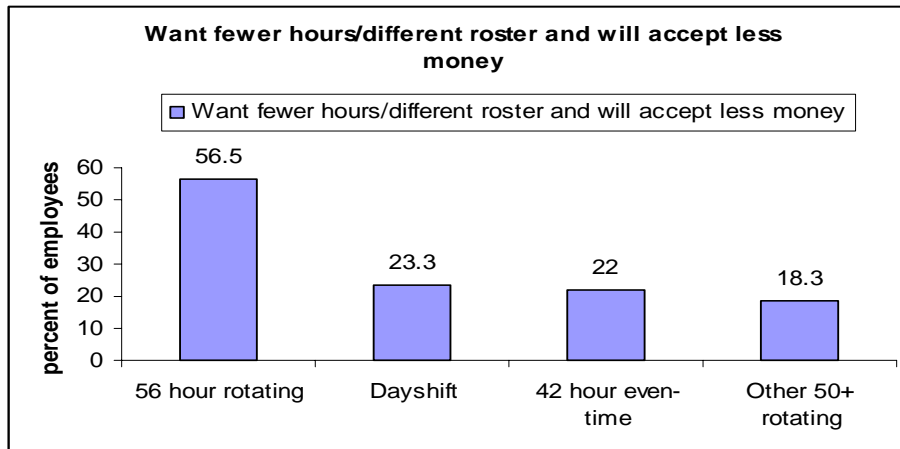
- 39.9% of all employees agreed that they were satisfied with hours worked and money earned
- 33.4% agreed that they wanted fewer hours and would accept less money
- 50.7% agreed they would like fewer hours but would not accept less money

There were significant differences between the rosters

- Employees on the 56 hour roster were much less likely (23.2%) to agree that they were satisfied with money and hours
- Employees on the 56 hour roster were much more likely (56.5%) to say they would accept less money for fewer hours.

This is presented in graph 4.2o below.

Graph 4.2o Would you accept less money for fewer hours



Population: Effective sample size of processing workers in Tasmanian mines n = 464.

Notes: Significant difference between the rosters $X^2(6) = 63.045$ p = .000 n = 443

Summary

Results from the survey clearly show that across all indicators, the factors most likely to be associated with an increased likelihood of rating the impact of the roster on family life poorly were:

- Being on night shift
- Being on rosters
- Being on the 56 hour roster and to a less extent the other 50+ hour rotating roster
- Being sleep impaired.

4.3 Spouse's perception of the impact of the rosters on the family

By obtaining information from spouses about the impact of the roster on the family we can better build up a more comprehensive picture of the impact of the roster on family life.

Shiftwork and especially extended shifts are very much shared family arrangements. A shift worker with a family cannot function without the active support and involvement of the family and particularly the spouse. Spouses of shift workers usually have greater responsibility for children and domestic labour when the employee is on shift. It is also the case that the spouse, as the person usually closest to the employee, will have insights and impressions of the roster's impact from a different perspective.

a) Most common impact of the roster on family life as nominated by families

We asked spouses of employees to indicate what they thought the most significant impact of the roster was and grouped these into the most commonly mentioned issues.

Overwhelmingly, across all roster types, the most commonly cited impact was the loss of home, family and relationship time

- 32.2% loss of home, family, or relationship time.
- 8.1% moodiness or tiredness of the roster employee.
- 7.8% lack of social or community involvement allowed for
- 6.3 specific hours or overall hours
- 3.7 working weekends

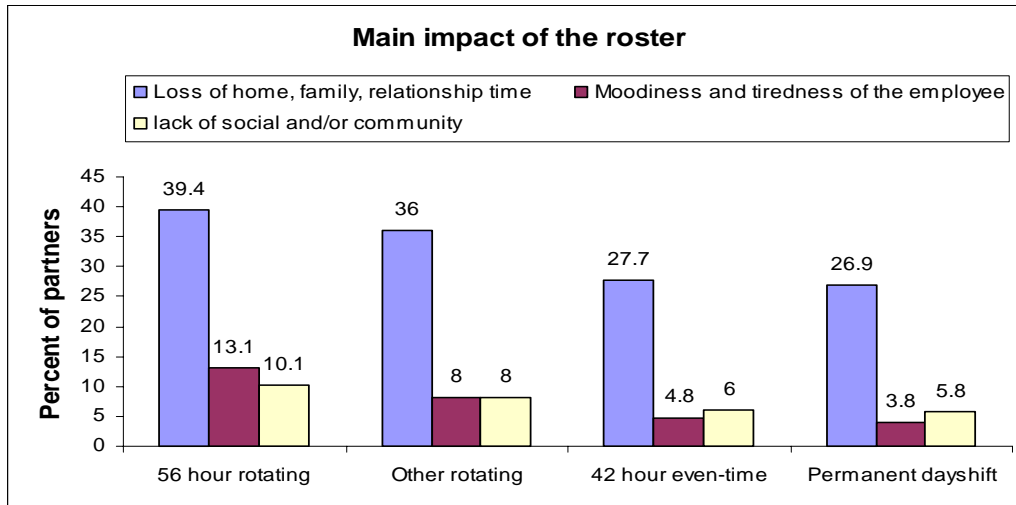
The impact of the roster

As graph 4.3a below shows, there were some differences between the rosters in terms of the significance given to particular issues.

- Spouses of employees working the 56 hour and other rotating rosters were more likely to cite loss of home, relationship and family time.
- Similarly, spouses of 56 hour rotating and 50+ hour other rotating roster employees were more likely to state moodiness or tiredness as the most significant impact.
- Spouses of 56 hour rotating and 50+ hour other rotating roster employees were also slightly more likely to assert a lack of social or community involvement as the most significant impact (10.1% and 8%) than the other rosters: even time 6% and day shift 5.8%

These results are shown in graph 4.3a below.

Graph 4.3a: Main impact of the roster: three most commonly cited issues across all rosters by main roster type



Population: Sample of partners of workers in Tasmanian mines n = 270

Notes: Even-time rotating roster n = 83, 56-hour rotating roster, n = 99, Other rotating roster n = 25, Day shift n = 52. Notes: Some respondents gave multiple responses: percentages may not add to 100%.

Many spouses included written comments at the end of the surveys which touched on the major impact of the roster as well. Some of these are presented below:

“The impact of this roster on our family life quality has been immense. My husband has worked many shift rosters in the past but the current one is by far the worst”

56 hour spouse

“It is the impact on my husband’s health above anything else that concerns me about the current roster. He looks like a walking corpse after night shift”

56 hour spouse

“The current roster he works is both physically and emotionally detrimental to my husband and affects social and spiritual aspects of our life together”

56 hour spouse

“Feel these rosters give us more quality time together; also this roster allows holidays to be longer (i.e. 4 days off)”

Even time roster spouse

“He has been on this roster for 7 years and there have been lots of family social events that I have been to on my own – he’s too tired and can’t be bothered”

Even time roster spouse

“I believe that the 4 on 4 off roster my fiancée works is wonderful. We still get to spend time together and still get to do social and family activities”

Even time roster spouse

b) Level of understanding of and support for the roster among families

Research indicates that the relationship between family, the community and the work schedule is 'bi-directional' (Beach, 199). In other words, the roster impacts on family life, but attitudes of the family also influence how the shift worker deals with the roster. It is accepted that the greater the support of the family, the better the shift worker will be able to manage work and family.

In order to explore this relationship, we asked spouses a range of questions associated with understanding of and support for the roster and how well it fitted in with their family life. We compare spouses' responses to employee responses to the same questions.

- Whether the family understood the employee's need to work the roster
- The level of family support for the current roster
- Whether the roster fitted in with the family
- Whether the roster had a detrimental impact on family life.

Across all rosters, survey results indicated that:

- 76.5% of spouses agreed that they understood the need for employees to work the roster they did (employee response 73.3%).
- 58.6% of spouses agreed that their family were supportive of the current roster (employees response 50%).
- 38.2% of spouses agreed that the roster fitted in with family life (employee response 37%).
- 55.3% of spouses agreed that the roster had a detrimental impact on their family life (employee response 66.1%).

These results were largely consistent with the trend indicated by employees, with the exception that employees were somewhat more likely to agree that the roster had a detrimental impact on family life than were spouses.

However, the differences between the rosters were highly significant.

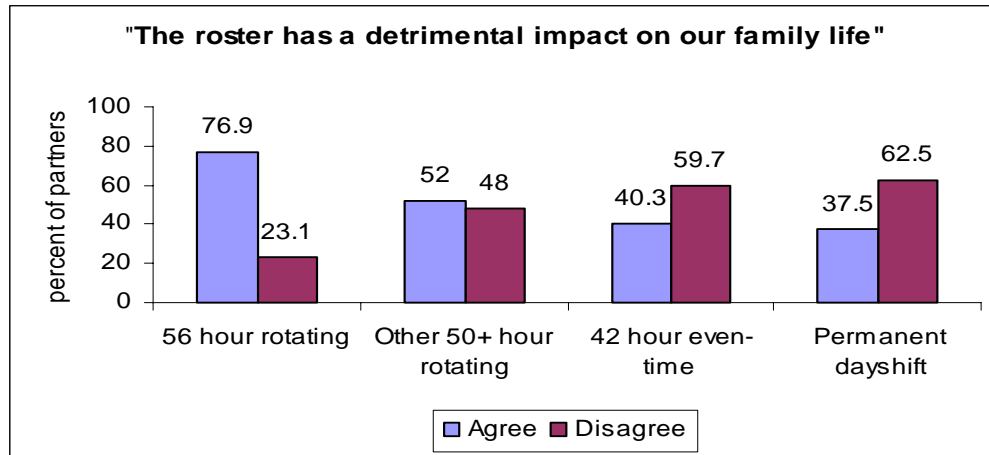
Survey results indicated significant differences between the rosters in terms of spouse's ratings across all of these indicators.

- Spouses on the 56 hour and other rotating rosters were significantly less likely to say their families were understanding (64%) of the roster than 42 hour spouses (90.1%) and day shift (85.7%).
- Spouses on the 56 hour and other rotating rosters were significantly less likely to say that the roster fitted in with family life (79%) compared to 45% of 42 hour and day shift spouses.
- Spouses on the 56 hour roster were more likely to say their families were not supportive of the roster (62.1%) compared to an average of 41.5%.

- Spouses on the 56 hour roster were significantly more likely than any other roster to say that the roster had a detrimental impact on their family life (76.9% compared to 55.3% average). This is shown in graph 4.2b below

These results are shown in graph 4.3b below

Graph 4.3b The roster has a detrimental impact on family life



Population: Sample of Partners of Workers in Tasmanian Mines n = 270.

Notes: Significant difference between all rosters: $X^2(3) = 22.190$ p = .000. n = 250, Significant difference between 56 hour rotating and even-time rosters: $X^2(1) = 17.219$. p = .000. n = 176.

The differences between the spouses' responses are highly consistent with responses by employees on the different rosters, with those on the 56 hour roster being most likely to express much higher levels of dissatisfaction across these indicators.

c) Impact on family relationships with partners and children as assessed by the spouses

We asked spouses to rate the quality of their relationships and ability to spend time together on and off roster across the following:

Personal relationship with spouse

- overall quality of the relationship between the spouse/employee
- quality of communication with spouse
- ability to spend time with spouse
- ability to spend time together as a family

Relationship with children

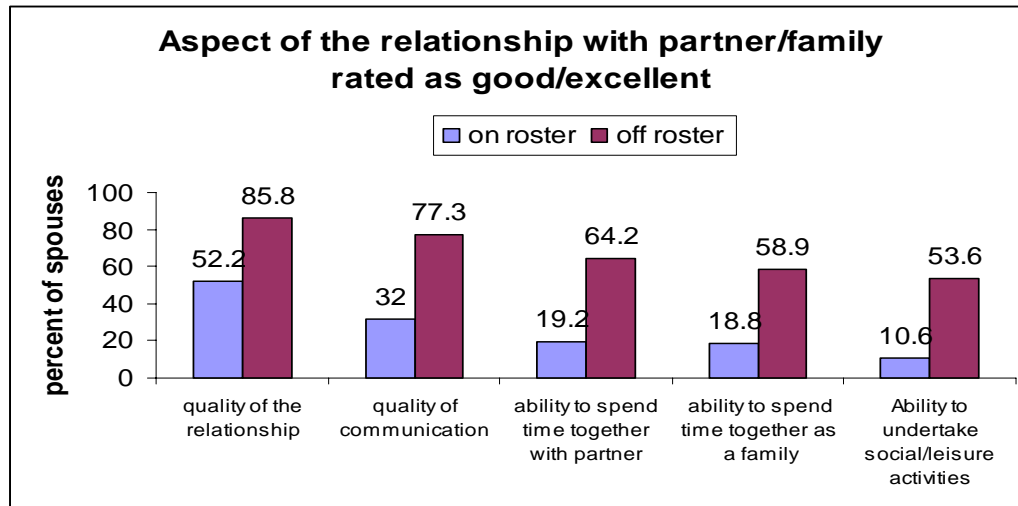
- overall quality of the employee's relationship with his/her children
- quality of employee's communication with children
- employee's ability to spend time with children
- employee's ability to be involved in children's activities
- ability to be involved in other sporting/leisure activities

(i) Impact on relationships with their partners and family

Overall, we found that for all aspects of the personal relationship, there was a marked deterioration in how spouses viewed the quality of relationships when the employee was on roster. These trends are very consistent with trends for employees across the same indicators.

They are presented in graph 4.3c below.

Graph 4.3c Effect on being on roster across range of family relationship indicators



Population: Sample of Partners of Workers in Tasmanian Mines n = 270.

Effect of the roster

Significant differences were found between the rosters.

Quality of relationships with partners

- Spouses on the 56 hour roster were significantly more likely to have low satisfaction levels when on rosters (38.3% compared to 52.2%).
- Spouses of employees on day shift showed the least change of 14.9% who changed their rating when their spouses were on roster.

Quality of communication

- Spouses of employees on the even time rosters were more likely to rate the quality of communication more lightly than average (86.4% compared to 77.3%).
- Those on the 56 hour rosters had the smallest proportion at 70%.

Ability to spend time with spouse

- Those on even time rosters rated their ability to spend time together more highly than the other rosters when they were off roster (77.8% compared to 64.2%).
- Those on the 56 hour roster had the smallest percentage (9.7%) who reported that their ability to spend time together was excellent or good; this is markedly lower than for any other roster.

Ability to spend time together as a family

- Over 50% of all employees rated their ability to spend time together as a family as excellent or good when off roster; only 18.8% when on roster.
- Even time roster spouses were much more likely to rate their ability to spend time together off roster as excellent/good than any of the other rosters including permanent day shift.
- Both the 56 hour and other rotating rosters showed the lowest satisfaction rating, with only 10% of spouses whose spouses were in this roster rating their ability to spend time together as a family.

Family's ability to undertake social/leisure activities

- This aspect of family relationship showed the lowest satisfaction rating among spouses both off and on roster.
- The 42 hour even-time roster showed the highest satisfaction rating when off roster at 67.5%, but this fell away markedly when on roster.
- Those on the 56 hour roster recorded the lowest satisfaction rating both on and off roster.

ii) Impact of the rosters on relationships with children

Research indicates that rotating shiftwork and night work can impact on relationships with children in a number of ways:

- time with the working parent can be limited
- ability to be involved in children's educational and sporting activities restricted
- there can be a mismatch between children's free time and the working parent's free time
- employees can be too tired to interact in positive ways with their children when they are off roster

Spouses commented at the end of the surveys about the impact of the roster on relationships with children. Some of these comments are presented below:

"My husband doesn't have enough time to spend at home with the children or me. The children need a father who is happy and not tired and crabby. Roster should be 4 on 4 off"

56 hour roster spouse

"I feel the hours are too long. My partner is too tired to spend quality time with the children. During day shift he sees his child for about an hour and on night shift he is too tired"

Other 50+ hour roster spouse

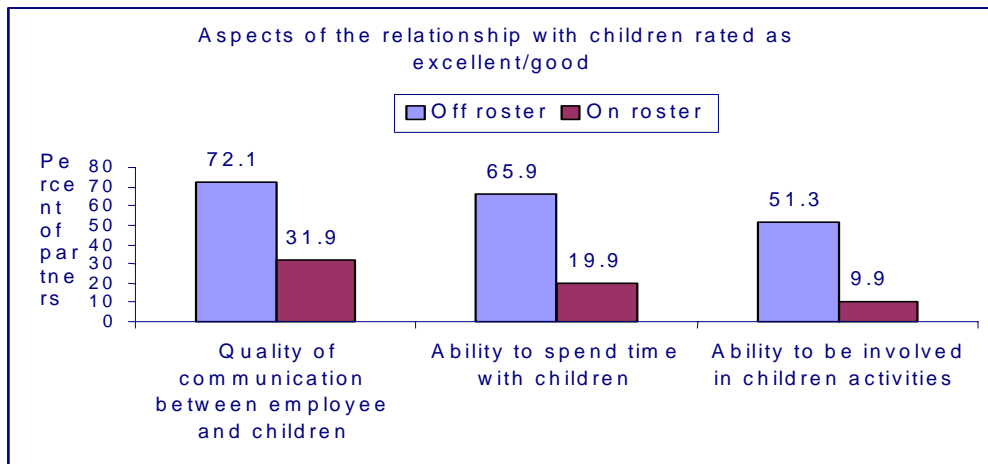
"There is a lot of pressure/stress for a spouse who is rearing a young family. After a long roster he has to take time to rest, do lawns etc, then it's time for the next roster"

Even-time roster spouse

Overall results indicated a dramatic deterioration in the assessment by spouses of the relationships between the employee and children when the employee is on roster.

However, what is particularly significant is that the ability to spend time with children or be involved in activities was not rated that highly even when employees were off roster. This is likely to be a function of a mismatch between the timing of employee's days off and the timing of children's time away from school or free time. This is very consistent with trends revealed by employees and is more severely affected by particular rosters. Results are presented in graph 4.3d below:

Graph 4.3d Impact of the roster on relationships with children as assessed by spouses



Population: Sample of Partners of Workers in Tasmanian Mines n = 270.

Effect of the roster

Quality of communication

- Spouses of employees on the 56 hour roster had the lowest satisfaction rating both on and off roster.
- Those on the 42 hour even time roster were more likely to rate the quality of communication highest when off roster.

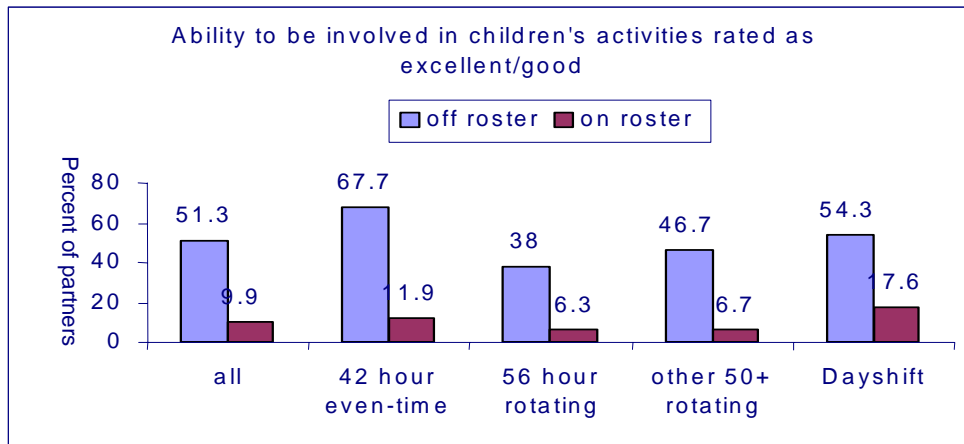
Ability to spend time with children

- Spouses on the 56 hour roster recorded the lowest satisfaction both on and off roster for this indicator.
- Those on the 42 hour even time roster were far more likely to rate the ability of their spouses to spend time with the children as high (78.5%) when off roster than any other roster; those on the 56 hour rotating roster were least likely (54.4%)

Ability be involved in children's activities

- Spouses on the 56 hour roster recorded the lowest satisfaction levels both on and off roster.
- The 42 hour even time roster had the highest satisfaction rating when employees were off roster.
- Day shift reported the least deterioration across all indicators when *on* roster.

Graph 4.2e Ability to be involved in children’s activities assessed by spouses



Population: Sample of Partners of Workers in Tasmanian Mines n = 270.

Notes: Off roster: Significant difference between rosters and ability to be involved in children’s activities $X^2(3) = 12.578$ p = .006. n = 191.

d) Spouses’ perception of the main advantages and disadvantages of the roster

We asked spouses of employees to nominate the main advantages and disadvantages of the roster.

(i) Main advantages of the roster

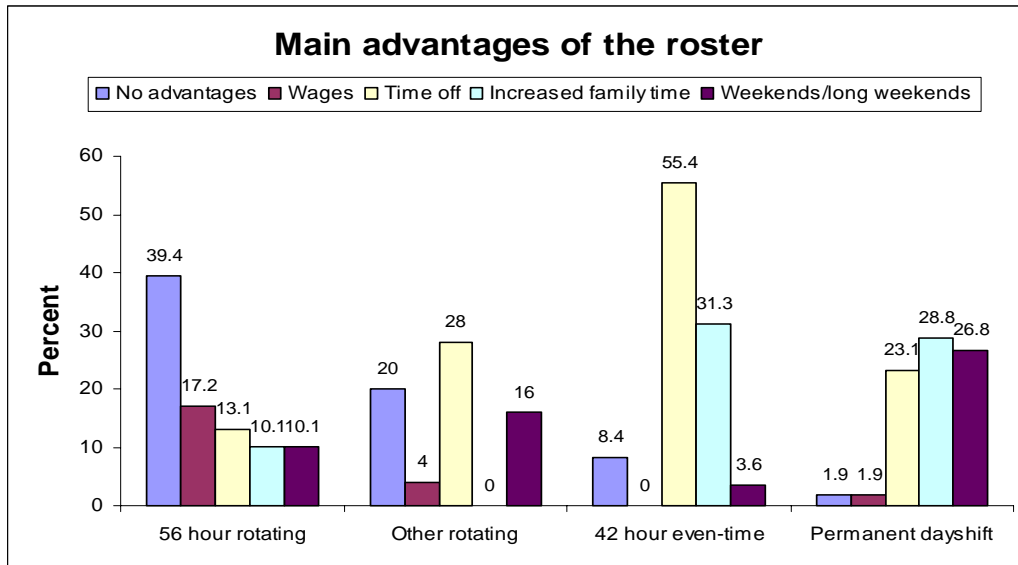
The five most common advantages identified across the rosters by spouses were:

- 28.9% time off in blocks
- 19.6% no advantages
- 19.3% increased family/home time because of roster/days off
- 11.5% weekends off/long weekends
- 7% wages

There were differences between the rosters.

- As with the employees, spouses on the 56 hour roster were far more likely to say there were no advantages associated with the roster.
- Spouses on the 42 even time rosters were far more likely to nominate time off and increased family time.

Graph 4.3f Main advantages of the roster



Population: Sample of partners of workers in Tasmanian mines n = 270

Notes: Even-time rotating roster n = 83, 56-hour rotating roster, n = 99, Other rotating roster n = 25, Day shift n = 52.

Notes: Only represents five most common responses across the mines. Multiple responses were possible: percentages may not add to 100%.

(II) Main disadvantages of the roster

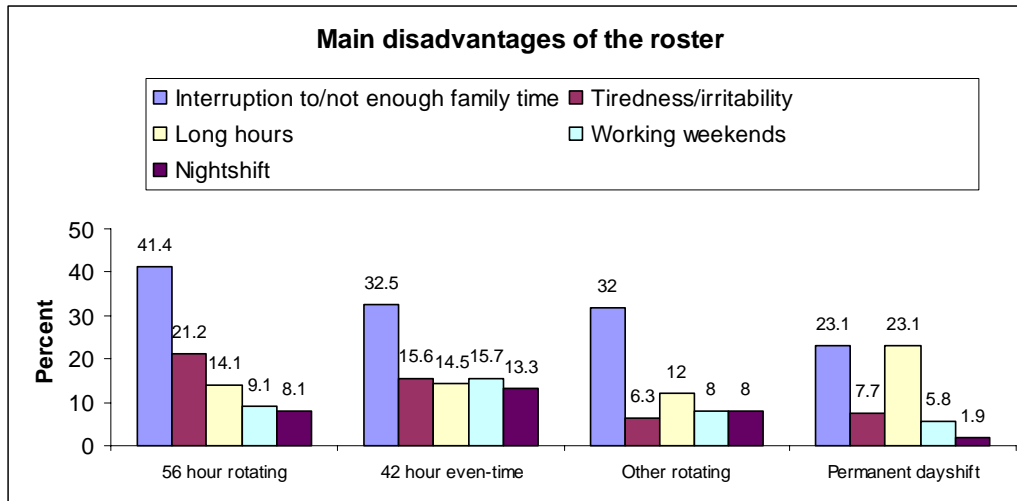
Main disadvantages of the roster across all roster types

- 33% interruptions to/or not enough family time
- 15.2% long hours
- 12.2% tiredness/irritability that resulted from the shifts worked
- 10% working weekends
- 8.5% night shift

Overwhelmingly, the most commonly cited disadvantage was interruptions to or not enough family time

Survey results indicated a number of large differences between the different rosters and the family’s viewpoint of the worst feature of the current shift system.

Graph 4.2g Main disadvantage of the roster



Population: Sample of partners of workers in Tasmanian mines n = 270

Notes: Even-time rotating roster n = 83, 56-hour rotating roster, n = 99, Other rotating roster n = 25, Day shift n = 52.

Notes: Only represents five most common responses across the mines. Multiple responses were possible.

Effect of the roster

- Spouses of employees on the 56 hour roster were most likely to nominate interruption to family life (41.4%) and tiredness and irritability of their partners.
- Those with spouses working an even time roster and other rotating rosters were more likely to assert that working weekends was the greatest disadvantage.

(iii) Do spouses of employees believe that the advantages of the roster outweigh the disadvantages?

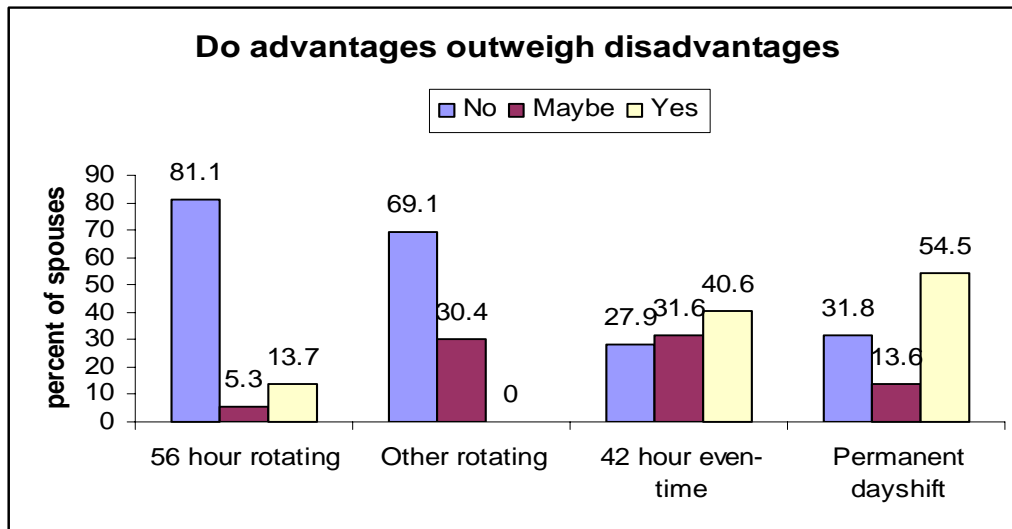
Across all rosters, the majority of spouses said they did not think that the advantages of the roster outweighed the disadvantages.

- Overall, 53.7% of all spouses said that the advantages definitely did not outweigh the disadvantages (this compares to 55.9% of employees).
- Of these, 36.9% were definite in their responses that the advantages of the roster did not outweigh the disadvantages.

There were significant differences between the rosters

- Results show that that the 56 hour (81.1%) and other rotating rosters (69.9%) were significantly more likely to state that the advantages of the roster did not outweigh the disadvantages than 42 hour even time (27.9%) and day shift (31.8%).
- None of the other rotating roster spouses said that advantages outweigh the disadvantages.

Graph 4.2 h Do advantages outweigh the disadvantages of the roster



Population: Sample of Partners of Workers in Tasmanian Mines n = 270.

Notes: Significant difference between 56 hour rotating and even-time rosters and whether advantages did outweigh maybe outweighed, or did not outweigh disadvantages $\chi^2(2) = 50.870$ $p = .000$ $n = 174$

Responses are even starker between the rosters when we examine the definitive responses.

e) Roster preferences

There was a view expressed by some in the industry that even though many families may not support some aspects of the rosters (especially the longer hours associated with the extended shifts), that if they were faced with the choice of accepting less money for fewer hours, that they would not be supportive of a cut in hours. While these responses have to be treated carefully, they can provide us with an additional insight, especially in terms of comparing the response between the rosters.

Across all rosters, results indicated that:

- 30.6% agreed that they were satisfied with hours worked and money earned (compared to 39.9% of employees).
- 28.2% agreed that they wanted fewer hours/different roster and would accept less money (compared to 33.4% employees).
- 51.4% agreed that they wanted fewer hours/different roster but would *not* accept less money (compared to 50.7% of employees).

There were significant differences between the rosters

- Spouses on the 56 hour roster were far less likely to agree that they were satisfied with money and hours (15.8% compared to an average of 30.6%)

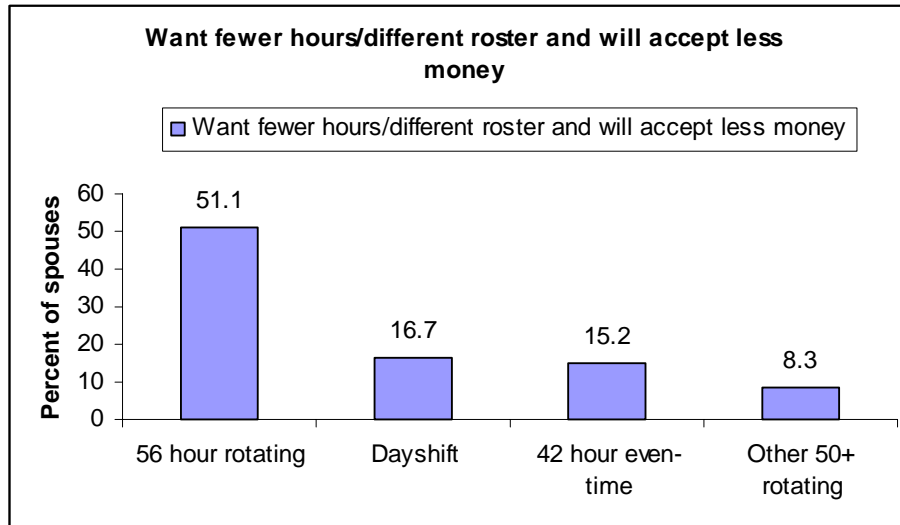
The struggle for time

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- Even time spouses were far more likely to agree that they were satisfied with money and hours (44.6% compared to 30.6%)
- Spouses of employees on the 56 hour roster were significantly more likely to agree that they would accept less money for fewer hours/different roster; other 50 hour + rotating roster spouses were far less likely

These trends are very consistent with employee trends for the same questions.

Graph 4.2o: Would you accept less money for fewer hours



Population: Sample of Partners of Workers in Tasmanian Mines n = 270.

Notes: Significant difference between rosters and will *not* accept less money: $X^2(6) = 13.976$. $p = .030$. $n = 242$.

Notes: Significant difference between 56 hour rotating and even-time rosters and will accept less money: $X^2(2) = 27.942$. $p = .000$. $n = 171$.

Summary

Results from the spouse survey showed very similar trends to those for employees. They showed that:

- The rosters affected all aspects of family relationships.
- Overwhelmingly, the detrimental impact is considered the greatest disadvantage associated with rosters and this is most profound for spouses on the more intensive rosters and particularly the 56 hour rosters.

The main factors associated with increased likelihood of a negative impact on family life across all of the key indicators were

- Being on roster across all rosters
- Being on the 56 hour roster and to a lesser extent the other 50+ hour roster

4.4 Summary of overall findings on family impact

The Review found that the impact of the rosters on family life has been adverse for many employees and their families. The rosters are affecting the time that employees can

spend with their families and the quality of this time. While many families appear to be managing the even-time rosters well, the more intensive rosters are proving very difficult for most families to cope with.

There is a strong gender dimension to this impact. Fathers' relationships with their children appear to be affected and parents are concerned about the absence of the father during critical times in their children's lives. Concerns were raised about the impact the absence of fathers is having on boys in particular.

There was very strong evidence that while families across all rosters were affected, the adverse impact on families whose partners work the 56 hour roster was most severe. This was because these families experience a "double whammy". Not only do they experience a greater reduction in family time when the employee is at work (due to longer hours), but the employee takes longer to recuperate and is more tired and irritable on their days off. This appears to damage the quality of the little time they do have with their families. Families on the even-time rosters also experience disruption when the employee is on roster, but many appear to be able to more effectively use their time off to restore family relationships. The differential impact of the roster on family life is even more pronounced than the way that the roster affects health and safety.

The inadequate recovery time between the blocks of shifts on the 56 hour and other intensive rosters was cited overwhelmingly as causing the most serious problem for family life and intimate relationships.

Community context

Special mention of the community context within which most mining families in Tasmania live is required. There is an interrelationship between the impact on the families, the activities and policies of the local mining companies and the effect on the local communities. The Review identified that the way these factors interact intensifies the impact of the rosters on families. This is especially the case for those who live in the isolated communities on the West Coast of Tasmania. These factors include:

- The geographical isolation of the communities. This isolation magnifies the role of the family unit as the key support structure for individuals
- The scarcity and erosion of local health, welfare and business services
- Significant proportion of long distance commuting employees. This is creating increased tensions in the community between those who commute ("seagulls") and those who live locally. It can also create additional pressures on families where the main breadwinner lives away from home during the roster period
- Withdrawal of men from these communities due to the roster. This limits their participation in community, sporting and other voluntary activities, increases their social isolation and reduces social and leisure opportunities for other community members, especially children
- Decreased job security for men and limited local employment opportunities for women. This increases the sense of economic vulnerability of families to changes that occur in the workplace.

The struggle for time

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The isolation of the communities heightens the importance of the family as the main economic and emotional support mechanism and places more pressure on it. This increases the need for quality time and intensifies problems for families when this time is compromised. In particular, problems that most families manage to resolve on a day-to-day basis can escalate where one of the family members is regularly absent or continually tired and emotionally depleted. **The risk is that everyday problems that are left unresolved can escalate into more chronic family dysfunction.** In addition, the absence of males from family units and the community compromises not only intimate family relationships, but affects community cohesion. It also places great responsibility on women to assume the bulk of the emotional and logistical support both within the family and the broader community.

In summary, the adverse effect of the rosters on many mining families is of great concern. Many of these families already experience hardship and disadvantage by virtue of living in isolated areas and not having access to services many other families in the rest of Tasmania take for granted. There is an argument that individuals “choose” these arrangements, but the choices are severely limited by limited skill, provision of training and job opportunities. Moreover, the mining industry is an important if not integral part of the structure of the West Coast communities; employees and their families make a critical contribution to this industry.

The adverse impact of intensive work schedules is manifesting itself now in increased social isolation and pressure on many of these families. In the longer term, the costs of further damage to family units will be borne by individuals, families, children and the larger community. There are clearly equity issues for these families and communities that require a broader response.